DOCUMENT RESUME

ED 142 035 FL 008 396

AUTHOR	Harris, Brian
TITLE	The Importance of Natural Translation. Working Papers on Bilingualism, No. 12.
INSTITUTION	Ontario Inst. for Studies in Education, Toronto. Bilingual Education Project.
PUB DATE	Jan 77
NOTE	29p.
AVAILABLE FROM	Bilingual Education Project. The Ontario Institute for Studies in Education, 252 Bloor St. West, Toronto, Ontario, Canada M5S 1V6 (as long as supply lasts)
EDRS PRICE	MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS	*Bilingualism; Bilingual Students; Interpreters; *Language Research; Language Skills; Linguistic Competence; Machine Translation; *Translation
IDENTIFIERS	*Natural Translation; *Translatology

ABSTRACT

The scientific study of translation, translatology, is behind linguistics in the study of data. While linguistics has reached out to include all speech acts within its proper study, the data of translatology remain, almost exclusively, professionally authored texts. The proper study of translatology is all translation. Everyday speech should not merely be included; it should be given priority. Translatologists should first study natural translation, which may be defined as the translation done by bilinguals in everyday circumstances and without special training for it. Several studies have been done on bilingualism which have produced relevant data; more research must be done, however, with natural translation as the specific object of the study. (CFM)

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THE IMPORTANCE OF NATURAL TRANSLATION

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BRIAN HARRIS

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-- No 2 --

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DOCUMENTS DE TRADUCTOLOGIE/
WORKING PAPERS ON TRANSLATOLOGY

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Reprinted from Working Papers on Bilingualism, January 1977

THE IMPORTANCE OF NATURAL TRANSLATION

Revised text of a paper read to the
AILA World Congress
Stuttgart, August 1975

by

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* * *

"Il est inimaginable qu'une recherche théorique sur la traduction ne se fonde pas sur un corpus d'observations aussi large que possible pour illustrer précisément l'universalité des mécanismes traductionnels."

R.W. Jumpelt,
quoted in Maillot 1969.

* * *

ABSTRACT

Natural translation (NT) is defined as: "The translation done by bilinguals in everyday circumstances without special training for it." The importance of NT is emphasized for the whole paradigm within which research on translatology (the scientific study of translation) should be done. Some tentative research is cited.

Some of the work reported on this paper was made possible by grants from the Canada Council and the National Research Council of Canada.

This paper is concerned with the whole current paradigm or 'disciplinary matrix', in Kuhn's sense, of translation research (1974; but cf. Percival 1976). In the present author's opinion, it is time to change it. My argument was first put forward to Canadian colleagues in a Montreal lecture on the subject in 1972 (Harris 1973). The AILA World Congress provided an opportunity to present the case to a wider audience. If the argument was not delivered convincingly, I hope at least to have made the issue clear.

Of course there is always an outside source of inspiration or provocation for a change of concepts. In this instance it was my nodding acquaintance with the history of linguistics, combined with seven years of more solid experience in MT (machine translation, i.e. computerized translation between natural languages).

A science may be defined intensionally by its methodology, and extensionally by the class of phenomena studied. Translatology (the scientific study of translation -- see Harris 1973 for the term) is over a century behind linguistics in the latter respect. Indeed it finds itself in a state partly analogous to that of linguistics when the latter was still called Philology in our universities. This is because the data of translatology remain almost exclusively professionally authored texts. It is not only true of written translations; it applies also to the spoken texts of interpreters used by Barik, Gerver, Sélesković and others, insofar as they are translated by professional interpreters from the input of professional orators (Barik 1974, Gerver 1975, Sélesković 1975).

> "Les linguistes eux-mêmes ont longtemps concentré leur attention sur les grandes langues littéraires qu'ils étudiaient en tant que philologues, et ne se sont avisés qu'assez tard de l'importance que présentait pour leurs recherches l'examen des idiomes sans écriture qui coexistent avec... ces langues officielles et littéraires" (Martinet 1960).

Linguistics, however, has now reached out to include all speech acts, even the youngest and humblest babblings, within its proper study. My starting point, therefore, is that the proper study of translatology is all translation. This declaration seems obvious in the spirit of the modern sciences of man. If, though, we pursue the parallel with linguistics we shall find ourselves compelled not merely to include the humble and the everyday: we shall have to give them priority. True, literature and rhetoric are still studied in linguistics in the branch we call stylistics, but unlike the 'stylistique comparée' of translation theory they are regarded as the icing on the cake.

To those teachers and analysts of translation who might protest that their object of study is not literature but technical and administrative documents, I would reply that the latter are nevertheless professional texts and that educators -- myself included -- recommend would-be translators of them to spend three or four years at a university-level translation school. Let me illustrate the failure to perceive that technical translation is not the furthest frontier by a quotation from a distinguished translator (Van Hoof 1971), who says promisingly:

> "La traduction est un phénomène universel applicable à toute espèce de message. Il n'est peut-être pas inutile de le rappeler, car la plupart des études qui lui ont été consacrées se fondaient sur la traduction artistique."

However, he goes on to make it clear that what he envisages is to

> "...décrire les caractères propres de la traduction technico-scientifique."

Van Hoof is echoing the theme which still takes up much of modern writing about translation: the conflicting requirements of literary and technical translation (cf. Cary & Jumpelt 1959, Ljudskanov 1972). Conducted the way it is, it is a discussion about esthetics.

Let us take another illustration, this time from a distinguished linguist, Eugene Nida, the dean of Bible translators, who was invited to give the 'keynote' lecture for the Translation section of the AILA Congress. Some people may consider the Bible a humble and everyday book, but its translation calls for expertise in philology and religion. In its English versions, "Biblical English has been both restrained and enlarged by a long theological tradition which makes it a specialized study" (Partridge 1973). Yet Nida's opus magnus, Toward a Science of Translating, is based almost entirely on Biblical examples (Nida 1964).

What has the effect of this unwitting limitation of the data been on translatology? There is a long history of writings about translation (cf. Kelly ?1977). Almost all of them were penned by translators, either in self-justification or for the education of other translators[1].

> "[A] long period in which seminal analyses and pronouncements stem directly from the enterprise of the translator and includes the observations and polemics of Saint Jerome, Luther's magisterial Sendbrief vom Dolmetschen of 1530 [gave way in Europe at the end of the eighteenth century to an] age of philosophic-poetic theory and definition [which includes] texts by Goethe, Schopenhauer, Matthew Arnold, Paul Valéry, Ezra Pound, I.A. Richards, Benedetto Croce, Walter Benjamin, and Ortega y Gasset" (Steiner 1975).

Since these authors were often sensitive men of letters, they have left

us flashes of insight. But as Ljudskanov complains (1969), they were strongly prescriptive. In this tradition follows the best-known Canadian work on translation, Vinay & Darbelnet 1958. Prescriptiveness, though less universal today than the reliance on a corpus of professional texts, also marks translatology as lagging behind linguistics, which is resolutely descriptive.

It seemed to me necessary to start this paper with some polemics because the weight of tradition in translation studies may take some force to lift aside[2]. However, I come now to the crux of the matter. Martinet in his "Eléments" (Martinet 1967) distinguishes between 'professional bilingualism' and 'social bilingualism', with the former an isolated phenomenon compared with the latter. So it is with translation, for the basic reciprocal reasons that all translators have to be bilingual and that all bilinguals can translate. Indeed there is the well-known model of compound vs. coordinate bilingualism according to which many bilinguals do nothing but translate (Ervin & Osgood 1954)[3]:

Here then is a first postulate for a new departure in translatology:

> ALL BILINGUALS CAN TRANSLATE. IN ADDITION TO SOME COMPETENCE IN TWO LANGUAGES Li AND Lj, THEY ALL POSSESS A THIRD COMPETENCE' THAT OF TRANSLATING FROM Li TO Lj AND VICE VERSA. BILINGUALISM IS THEREFORE A TRIPLE, NOT A DOUBLE, COMPETENCE; AND THE THIRD COMPETENCE IS BI-DIRECTIONAL.

The postulate has been foreshadowed by a footnote in Ljudskanov 1969:

> "Grâce à une certaine intuition et à une certaine habitude, chaque sujet bilingue traduit d'une manière ou d'une autre. Par conséquent, la science de la TO [traduction humaine] n'avait pas à s'occuper de la question comment apprendre à l'homme à traduire, mais de la question comment lui apprendre à agir d'une manière ou d'une autre pour obtenir des résultats correspondant à certains critères acceptés à priori."

This third competence of bilinguals, which I hypothesize is universal, we may call natural translation (NT).

If we next apply to the postulate the analogy made above with the development of linguistics, we may derive a second postulate:

> TRANSLATOLOGISTS SHOULD FIRST STUDY NATURAL TRANSLATION, WHICH MAY BE DEFINED AS THE TRANSLATION DONE BY BILINGUALS IN EVERYDAY CIRCUMSTANCES AND WITHOUT SPECIAL TRAINING FOR IT.

If it is true that all bilinguals can translate, then it follows that most of mankind can do so, since "bilingualism, far from being exceptional, is a problem which affects the majority of the world's population" (Mackey 1967).

The audience at the AILA Congress having been composed mainly of teachers, the next paragraphs point out some implications of the postulates for education. Translation schools face problems of applied translatology. However, there can be no applied linguistics without linguistics, and the same goes for translatology. At least teachers should recognize that we do not teach students to translate -- not basically. On the contrary, many schools, including ours at the University of Ottawa, set an entrance examination which is intended to test, among other things, how well applicants can translate already (cf. Favre 1975). We do try to teach them to translate better; but what is 'better' depends on the "critères acceptés a priori" of the Ljudskanov quotation above.

Perhaps there is an important corollary for language education in general. It is that translation should continue to be taught and exercised in our secondary schools (cf. Ladmiral 1972) and might even be extended in some places to primary schools. This may have been an

unpopular recommendation to make to a congress of applied linguistics; however, as Darbelnet and others have pointed out (cf. Darbelnet 1963, Taylor 1972), all students who learn a second language do translate even if the method used ignores or forbids it, so we might as well make sure they are translating correctly. Why not go further and say that translation is a natural skill, and therefore like all natural skills it is capable of improvement under guidance? Rudolf Flesch called it "the ideal form of mental exercise" (Flesch 1951a) and gave a reason, quoting Schopenhauer, which can be summed up as liberation from servitude to a single symbolic system. Ergo, let us as teachers guide its development wherever we find it and at whatever age.

The question of age is of particular interest to the theory of natural translation, because if it is true that NT is coextensive with bilingualism, then the former should be detectable by investigators at as early a stage of ontogeny as the latter. Furthermore, in educated communities it is only by catching translation at a very early age that we can be sure of observing it in its 'natural' state. Harris 1973 recounts a brief case history of two young children in a bilingual Chinese-English Ottawa family:

> "Les enfants... outre que le chinois qu'ils connaissent comme langue maternelle, apprennent progressivement l'anglais parce qu'ils rencontrent des enfants anglophones et fréquentent la maternelle anglaise. L'aîné parle déjà à cinq ans un anglais presque normal pour un enfant de cet âge, tandis que le cadet, âgé de trois ans, ne parle encore que le chinois avec quelques mots isolés d'anglais. Il est donc possible de bavarder avec l'aîné, mais la barrière des langues rend difficile la communication avec le cadet. Sauf que le problème du cadet est tout de suite résolu lorsque son frère est présent. Chaque fois que le cadet baragouine quelque chose en chinois, il suffit de demander à l'aîné: 'Que

> désire ton frère?'; et pour lui répondre ou lui transmettre une information, il suffit de dire: 'Dis ceci à ton frère'."

It also mentions children of Italian immigrants in Montreal who see themselves acting as interpreters for their elders.

My hypothesis predicts, however, that similar data should be found for even younger children, since the onset of bilingualism is often earlier than 5 years. Many readers will probably recall encounters they have had themselves with child translators, perhaps even in their own families; but we are concerned here with well-attested and controlled investigations. It is therefore gratifying to report that such data has been collected by a Canadian colleague, Merrill Swain of the Ontario Institute for Studies in Education, and some of her fellow researchers. A key study was reported in Swain & Wesche 1972. The subject was a 3-year-old child of French-speaking father and English-speaking mother living in Quebec City. The child was observed over a period of nine months, at the start of which he could not distinguish consistently between his two languages, but at the end of wnich there was clear separation even to the extent that he was capable of recognizing and correcting some of his own errors caused by interference. There were two investigators interviewing the child together. In the experimental set-up, the child was led to believe that the investigators were monolingual, one in French the other in English. This produced instances of two kinds of spontaneous translation by the child: (i) sentences said by one investigator and translated to the other, (ii) sentences said by the child in one language which he himself translated into the other. (This second kind of translation, which is widespread but is not translation in the usual sense of the

word, we might call 'autotranslation'.) A typical example of (i) is the following: one investigator, the English speaker, gives the child a carrot, saying, "Put it in his mouth [i.e. a doll's mouth]. That's where he eats from." The child thereupon says to the other investigator, "Moi vais mettre dans sa mouth." (Other tests elicited subsequently that he did in fact know the French word 'bouche'.)

The object of that study was not natural translation but lexical interference. The example just quoted aptly illustrates both, but how much richer data on child translation might we acquire if we turned to investigate it specifically? So little attention has been paid to the phenomenon that the standard bibliography of child language, Leopold's (Slobin 1972), contains no reference to it.

Swain and her colleagues have done further work with children that starts to throw a little more light on translation processes (Swain, Dumas, & Naiman 1974). This time their Ss were 112 schoolchildren aged approximately 5-7 years. They were English speakers learning French through so-called 'immersion' programmes at school. In such programmes, instruction for all or a substantial part of the syllabus is given in the second language; but the second language is not taught per se, and there is no teaching of or via translation (cf. Lambert & Tucker 1972). The aim of the experiment was to test second language comprehension and production. Ss were given sentences to translate from their second langauge into their first (test of comprehension) and vice versa (test of production). Since the Ss were provided with prepared sentences and were explicitly asked to translate them, the investigators speak of 'elicited translation' in contrast to translation in a freer communicative

context (which they promise to investigate later). Their most interesting finding for translatology is that two divergent strategies quite familiar to translation teachers already appear spontaneously at this early age:

> "Sometimes [the children] produced structures which were not found in their English spontaneous speech. These children appeared to be translating from one language into another on a word-for-word basis... For instance, when asked to translate 'Maintenant la grande soeur de Jean-Paul met quelques livres dans son sac', these Ss would say 'Now the sister of Jean-Paul puts a few books in her bag'..... However, not all children seemed to be translating in the same fashion. Some had the ability and facility in [the second language] to chunk the second language sentences into larger and more appropriate units. These children's competence in the second language was on the whole greater than [that of] the children who were translating [word for word]. The data show that the 'good translators' performed better on all aspects of second language competence investigated, e.g. control of gender, tense, genitive and direct and indirect object structures. Variables such as sex, IQ, or digital memory span did not differentiate the 'good translators' from the 'poor translators'... In any case, it would seem that ability to give other than word-for-word translations is correlated with many other aspects of superior performance in the second language."

Thus in the report just summarized translation makes a contribution to research in psycholinguistics. Its authors remark, "No [other] studies that we know of...use translation as a means of tapping language competence." Nevertheless there is no lack of other instances where linguists have used elicited NT as a tool in their investigations. Lambert and his associates have done so in a number of studies over the past 20 years (e.g. Lambert, Havelka & Crosby 1958). A recent example is to be found in Piquette 1976, which reports an experiment in which Ss were set the task of translating sentences containing ambiguous syntax. The resulting translations were adduced as evidence of the Ss' sensi-

tivity or insensitivity to the ambiguities. The Ss were bilingual students in a Montreal secretarial college. This study extends the linguists' use of translation; yet it may be seen to represent only the tip of the iceberg when we consider the vast amount of fieldwork done by linguists applying the classic method of 'discovering' the grammar and lexicon of a language through native 'informants'. Part of the latter's function is always to help the investigator with 'glosses', i.e. translations, an aid the linguist usually passes on to other learners in his eventual descriptions (cf. Samarin, 1967 Index, s.v. "translation").

If we sift the literature on bilingualism and translation, we do come across a little more data gathered incidentally in the course of studies with other aims. One such piece of research was reported on at the AILA Congress and was the work of another Canadian, namely Barik's paper on simultaneous interpretation (Barik 1975). What is germane to NT is that Barik used three levels of Ss: fully qualified professionals, beginners and rank amateurs. Clearly one does not expect the amateurs to do so well as the professionals. Nevertheless, consider how well the amateurs did perform in what is usually considered, at least by laymen, to be the most difficult of all translation modes. Judged by Barik's 'index of disruption', they succeeded in translating an average of 70% of the text compared with 90% for the professionals (though he warned us that the figures may have been slanted a little in favour of the amateurs). Barik himself seems to have been struck by how narrow the margin was between the professionals and the amateurs in his study, because he commented in his 1972 article in Babel:

> "With regard to amateur translators, it might be argued that if one is interested in studying the phenomenon of

> simultaneous translation per se, independently of its application, it may be more appropriate to look at it in relation to 'naïve' subjects, where performance and mode of operation are not influenced by learned techniques".

Although Barik's NT findings, like those of Swain and her collaborators, were only incidental, there is at least one encouraging lesson to be learnt from them in advance of any attack on NT proper, and that is the practicability of applying exact methods of research. It is the general principle which is important: I am aware that Barik's methods along with those used by his predecessors Oleron and Nanpon (1965) have been criticized by Séleskovitch as being superficial, she herself preferring an interview technique so as to draw out introspection (1975, and cf. from the same school, Paris III, Thiéry 1976). We ought, however, to take advantage of both approaches in order to meet the next need of NT after recognition of its importance, namely the elaboration of a methodology.

I said at the beginning of this paper that the second intellectual current which carried me in the direction of NT was MT (machine translation), paradoxical though this may sound. In the first place MT obliges one to explicate the process of translation (neatly termed 'l'opération traduisante' in French). MT researchers are not in a position to treat that process as a psychological 'black box' and concern themselves only with comparison of the source and target texts in the spirit of structural linguistics. Nor can they content themselves with drawing hypothetical formal diagrams of what the black box may contain. If they cannot quite pry the box open for the time being, they must at least construct working simulations of it. Therein, as Mel'chuk and others have said (1967),

lies the value of MT for the whole of linguistics; and it has also borne such fruits for the theory of translation as Ljudskanov's book (1969). However, another lesson to be drawn from MT is a lesson in humility: it is that before we regale ourselves on delicacies of style and nuance, we need to live for a while on a diet of bread and water -- meaning that we still have a great deal to learn about the translation of relatively very simple utterances.

Another sobering lesson for me came out of our experiments at the University of Montreal on automatic transcoding ('pidgin translation' as it has sometimes been called): to wit that even correct grammar and lexical norms in translation are sophisticated luxuries (cf. Harris 1971). In those experiments, passages of German were translated by computer into a semi-artificial kind of French in which formal correspondences with the source language were retained deliberately and systematically (for the principles see Hofmann & Harris 1969). The result was the simplest possible kind of translation computationally -- word for word and in the source-language word order -- but of course it required tolerance and adaptation (some would say much goodwill) on the part of the reader. It certainly was not conventional, let alone stylistically pleasing, French. As a comprehension test, the output was given to students and secretaries who had followed courses neither in translation nor in German, and they were asked to re-write the texts in normal French. They did so, and they showed that they could make correct sense of them.

Other users' experience with MT output provides supporting evidence for a wide degree of tolerance in the understanding of translations. The documentation service of the Euratom organization used an early MT system

for several years without 'post-editing' (revision by a human translator-editor). Clients were offered a free human translation if the rough-and-ready computer translation did not satisfy their needs. The offer was rarely taken up (Perschke 1968). Perhaps this tolerance just matches our general ability to understand faulty utterances. Anyway it encourages me to put forward the following third postulates:

> IN NATURAL TRANSLATION, TRANSMISSION OF INFORMATION IS THE PRIME AIM AND CRITERION OF SUCCESS: LINGUISTIC EXPRESSION IS RELATIVELY UNIMPORTANT SO LONG AS IT DOES NOT INTERFERE WITH INFORMATION.

This postulate is not so inconoclastic as the other two, since it is generally agreed that transmission of information (alias 'cognitive content') is the most important function of most translation, and theorists have analysed the kinds of information involved (especially Nida 1964). As one authority puts it, "No stylistic jewel can redeem a mistranslation" (Secretary of State 1976). Nevertheless the second half of the postulate runs counter to the attitude prevalent in the profession and a fortiori in our translation schools. The recent Canadian official document just cited illustrates the point. It presents a proposed Canadian Language Quality Management System (CLQMS) intended for evaluating government translators' work. The system's marking grid tabulates 15 "parameters". Of these, 5 are indeed related to meaning, being labelled "Meaning", "Incoherence", "Nuance", "Addition" and "Logic"; the other 10 are grammatical, rhetorical and stylistic, viz. "Terminology", "Structure", "Effect", "Level (source language)", "Level (target language)", "Editing", "Syntax", "Usage", "Style", "Approach".

I began research on NT with the assistance of some undergraduate

students in 1974. They audio-taped young adults doing semi-consecutive interpretation in stretches of roughly sentence length. (Professional semi-consecutive interpretation is oral translation of spoken discourse in which the discourse is broken up into stretches -- usually of about paragraph length -- that the interpreter's memory span can cope with. So the speaker pauses every so often to let the interpreter have his say.) We started off as a matter of principle with oral translation because of the analogy once again with modern linguistics, which gives well-founded precedence to the spoken over the written language. The proportions in which the two media are used for translation have been obscured by the professionals' concern with the written kind; but speech, and with it presumably NT, is found everywhere in mankind whereas writing is still far from universal. Fortunately the tape recorder provides an excellent recording device for oral NT, and so we now have some NT tapes and some analysis has been done of them by my students but not published. (Others who might wish to use these tapes are welcome to do so, but they should be forewarned that the Ottawa Valley dialect of French they would hear on them is difficult for outsiders to understand.)

Resolving how to record the data is of course a preliminary to all exact research. It would not be unfair to characterize most of the data used in translation theory so far as 'post mortem'. I mean that even if the investigator was interested in the process of translation, the data has been a source text and a finished product, the target text, with the latter in its polished and published edition. What of the stages between the two? Lost, because much of it goes on only inside the translator's head, and because what part of it is traced on paper in the form of rough

drafts and corrections is quickly thrown away[4]. In any case, decipherment would demand the patience of a paleographer. Only in Séleskovitch's study of the notes made by consecutive interpreters has such ephemeral data from the present day been analysed and published (1975). So my students developed a recording medium that might do for written translation what the ordinary tape recorder has done for interpretation. It is simply the video-tape recorder. It records not only the translator's written output as it happens, with all his hesitations, his backtracking to re-read or correct his own text, his interruptions to look up dictionaries; it can also capture in sound, once the translator is encouraged a little, and if he is not of too taciturn a character, his immediate verbal introspection.

[A few minutes of one of the video tapes was played at the AILA meeting, and the following remarks relate to it. The recording was made on Sony V-32 half-inch tape at three and three-quarters i.p.s.] The subject was a 14-year-old schoolboy, one of a group recorded at the Collège Saint-Alexandre at Limbour near Ottawa. They were in their first year of Latin. It is a bilingual college, so some of them were doing their 'version' from Latin to French and some from Latin to English. The idea of recording Latin translation was that of my student M. Lahaie, who justified it, against the objection that it is hardly a very natural kind of translation, by the argument that they would be slower at it than they would be between English and French and therefore we would have time to observe more! I think we have learnt since then that we do not need the artifice. Each S was given six Latin sentences to translate, at his own speed. A typical sentence was:

"Romani templum Jovi in alto monte aedificant".

The boys did not seem to be worried by the camera, and we have found in other experiments with older Ss that camera-shyness is not a problem if it is clearly explained to them that they are not undergoing an official test.

We have found that the position for the camera which affords the clearest view of the action is looking down on the work-table from in front of the S. This means the camera is reading the S's texts upside down. We could counteract the effect by turning the camera upside down, but actually we find it easier to invert the viewing screen. Six sentences may not seem much text; however, two other experimental principles are that the source text has to be held constant if valid comparisons are to be made between Ss, and that a little analysed thoroughly is better than a lot analysed impressionistically. Once more it is a departure from tradition in translation studies, which have hitherto reposed on comparative studies of long texts, typically whole works of literature (e.g. Brower 1959a, which deals with seven translations of Aeschylus' Agamemnon in the space of 22 pages).

What results have we had so far? -- beyond, that is, merely demonstrating that 'naturals' can translate, which would be a somewhat redundant finding in mature Ss now that we know 3-year-olds can do it. We possess, for example, some interesting data on the so-called 'units of translation', for which we made recordings in 1975 but using professional translators. With the earlier tape shown at AILA, the Lahaie team were mainly interested in the strategies used in translating the Latin sentences, in which they distinguish 10 phases (quoted from their unpublished report):

"1. Visionnement des mots lors de la lecture de la phrase.
2. Verbe -- Signification -- Déclinaison (temps, voix, etc.)
3. Relecture.
4. Vocabulaire connu, étude des cas.
5. Vocabulaire des termes inconnus, étude des cas.
6. Début de traduction; c.-à-d., premier jet.
7. Comparaison avec la phrase latine.
8. Evaluation de la vraisemblance selon le contexte.
9. Evaluation selon les règles normatives du latin.
10. Version finale."

However, on the tapes it is not a straight run-through in that order: there are clear tendencies to first 'hunt' the verb, secondly to find the subject, and then to translate those two constituents before tackling the rest of the sentence. Indeed the boys followed this procedure so regularly as to raise doubts about whether they were really doing it 'naturally' or whether they had been taught to do so -- especially as it was 'weakly equivalent' to the structural analysis advocated in Schofield's article about "Teaching pupils to translate complex Latin sentences" (Schofield 1968). We did not succeed in elucidating how much was due to teaching: only that the boys felt this was the best way to do it.

The third postulate laid down earlier obliges us to face another problem: it is all very well to say that transmission of information is all-important, but how to measure it? Concurrently with the experiments described above, another group of students worked with me on a measuring technique and scale which we called "A notation and index for informative congruence in translation". It has been published as Harris 1975.

It is my earnest hope that others will take up the challenge presented by the concept of natural translation. NT is still virtually uncharted territory. Indeed the overall picture in translatology has not changed

much since Yngve, writing about machine translation, warned us a decade ago,

> "The task will be long and difficult because today not nearly enough is known about languages and the way we translate. The task is a fascinating one because it has the elements of adventure and exploration beyond the borders of our sure knowledge." (Yngve 1956)

NOTES

1 They were not professional translators in the present-day sense of 'full-time practitioners'. Although corps of government and military interpreters were organized from ancient times (Dimič 1975), the modern profession only got its start in the late nineteenth century. Previously translators, at least those whose work has come down to us, were scientists, theologians, humanists, authors, hack writers, etc., who only turned their hand to translation when necessity or an influential patron demanded it (Kelly ?1977). Of course there are still many 'free-lancers' of that kind. Translation schools are even more recent: according to Lavorel 1974, the first was founded at the University of Heidelberg in the 1930's.

2 In the pages of the professional journal Babel, Bros Brann has already taken issue with Barik over the use of non-professionals as Ss in research on interpreting:

> "[His sample] hardly merits the name... From a professional point of view, being a linguist [i.e. a person knowing several languages -- BH] no more qualifies one for interpreting than knowing how to play scales and owning a violin makes one a virtuoso." (Bros-Brann 1975)

She is hardly kinder than C. Parsons, editor of Professional Translator, who wrote to me on reading a draft of this paper that he could not see what an investigation of people's singing under the shower could contribute to musicology (Personal communication). Both analogies imply either that professional translation is the only translation, or that the non-professional sort is unworthy of serious study. The former proposition is manifestly untrue: the latter is narrow-minded enough to gravely restrict our understanding of human behaviour and verges on conceit. To conclude in the vein of picturesque analogies: should a study of driving habits be confined to racing drivers and taxi drivers, who are, after all, the professional aces in their field?

3 In Houston 1972:205 the proposition is discussed that bilinguals possessed of a pure coordinate system, if such exists, would be unable to translate between their languages. Reference is made to Lambert, Havelka & Crosby 1958 and to Diller; though I have been unable to find any mention of the proposition in the former. The hypothesis seems to assume that translation is performed by direct mapping between two languages. Without denying that this may occur to some extent in the translation process, we ought not to assume that all translation is done that way and so jump to conclusions about coordinate bilinguals. Some translation teachers, e.g. Séleskovitch, declare interlingual mapping is not true translation but 'transcoding' ("transcodage" in Séleskovitch 1975). For them true translation requires distillation of meaning from the source-language text into some form of non-verbal (or partially non-verbal) memory coding (cf. Ljudskanov 1972) and its re-verbalization in the target language. According to this model, coordinate bilinguals too should be able to translate.

4 Some rare exceptions have come down to us. Examples: notes by John Bois, one of the original King James Bible revisers, have been rescued from oblivion by Allen 1969; Meynieux 1962 analyses a few MS pages from Turgenev's reworking, with revisions by Flaubert, of Mérimée's translation of two Pushkin poems; Hildick 1965 devotes a chapter to the MS of Pope's translation of the Iliad. All these references reproduce a few sheets from the respective MSS. For other records which are extant but unpublished, see Steiner 1975:274f. Steiner expresses -- but more eloquently and with many examples -- the same objection as I have put forward in this paragraph:

> "Our analysis and judgement work from outside, they come after the fact. We know nothing of the genetic process which has gone into the translator's practice..." (p. 273).

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